

Notice of Allowability

Application No.

10/050,776

Examiner

Michael P. Stafira

Applicant(s)

HAMAMATSU ET AL.

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to RCE filed July 18, 2005.
2. ☒ The allowed claim(s) is/are 1-23,26,27 and 29.
3. ☒ The drawings filed on 18 January 2002 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

1. The Declaration Under 37 CFR 1.132 filed July 18, 2005 meets the requirements of the rules and therefore the rejections with Ishimaru et al. is no longer considered prior art.

Allowable Subject Matter

2. Claims 1-23, 26, 27, 29 are allowed over the prior art of record.
3. The following is an examiner's statement of reasons for allowance:

Regarding claims 1, 26 the prior art fails to disclose or make obvious a defect-inspecting apparatus or method having a high-angle illumination system which illuminates light on a surface of the object to be inspected with desired luminous flux from a high-angle relative to the surface of the object; and a low-angle illumination system which illuminates light on the surface of the object to be inspected with desired luminous flux from a low-angle relative to said high-angle illumination system; a photoelectric conversion unit which receives the scattered light, of which image formation has been performed in the image formation optical system to convert the scattered light into a first luminance signal corresponding to said light illuminated by said high-angle illumination optical system and a second luminance signal corresponding to said light illuminated by said low-angle illumination optical system; and a comparison and judgment unit which classifies defects on the object to be inspected into scratches, thin film-like foreign materials and convex defects by using the first luminance signal and the second luminance signal, which have been converted by the photoelectric conversion unit of the detection optical

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system and in combination with the other recited limitations of claims 1, 26. Claims 2-12 are allowed by the virtue of dependency on the allowed claim 1.

Regarding claims 13, 27 the prior art fails to disclose or make obvious an apparatus or method for defect inspecting having an incident illumination system that incident-illuminates illumination light including UV light or DUV light at a point on a surface of the object to be, which is mounted on the, with desired luminous flux from a normal line direction relative to the surface or from a direction in proximity to the normal line; and a oblique illumination system that oblique-illuminates illumination light including UV light or DUV light, which has a wavelength different from that of said incident-illuminated illumination light, at a point on the surface of the object to be inspected with desired luminous flux; a first and a second photoelectric conversion unit which receives each of the first high-angle scattered light and the second high-angle scattered light, for which image formation has been performed by the image formation optical system, to convert the first high-angle scattered light and the second high-angle scattered light into a first luminance signal and a second luminance signal respectively; and a comparison and judgment unit which discriminates a defect on the object to be inspected on a basis of a relation between the first luminance signal converted by the first photoelectric conversion means and the second luminance signal converted by the second photoelectric conversion means in the detection optical system. and in combination with the other recited limitations of claims 13, 27. Claims 14-23 are allowed by the virtue of dependency on the allowed claim 13.


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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael P. Stafira whose telephone number is 571-272-2430. The examiner can normally be reached on 4/10 Schedule Mon.-Thurs..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Toatley can be reached on 571-272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Michael P. Stafira
Primary Examiner
Art Unit 2877

August 3, 2005